**The Science of the NFL Webquest:**

**Newton’s Laws of Motion**

Directions:

Go to <bakermister.wikispaces.com>.

Click on Youtube Playlists, then click on Motion.

Watch “Newton’s Laws of Motion in Sports” to review Newton’s Three Laws of Motion.

Last, click on “Newton’s First Law of Motion” and watch Newton’s First Law, Newton’s Second Law and Newton’s Third Law video clips to answer the questions below.

**Newton’s First Law:**

1. What is Newton’s First Law of Motion? What happens to a moving object if no force acts upon the object?
2. What is an “unbalanced force”?
3. What is inertia? How does it operate in football?
4. What is the difference between mass and weight?
5. How is inertia used in a “Quarterback sneak”?

**Newton’s Second Law:**

1. What does Newton’s Second Law state?
2. What does F = MA stand for?
3. How much force does an NFL kicker apply to a football?
4. What is an impulse? Why is it important to a field goal?
5. Why does the length of time a kicker’s foot touches the ball affect its acceleration?

**Newton’s Third Law:**

1. How does a tackle demonstrate Newton’s Third Law of Motion?
2. Is the action of a Newton’s Cradle the same as one player tackling another? Why or why not?
3. What are elastic collisions and an inelastic collisions?
4. Why are inelastic collisions so common in football?